



MULTILAYER CERAMIC CHIP CAPACITORS



CGA Series Automotive Grade Conductive Epoxy Application

Type:

- CGA2 [EIA CC0402]**
- CGA3 [EIA CC0603]**
- CGA4 [EIA CC0805]**
- CGA5 [EIA CC1206]**
- CGA6 [EIA CC1210]**

Issue date:
Dec 2014



REMINDERS

Please read before using this product

SAFETY REMINDERS



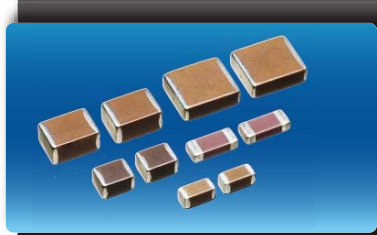
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(Example)

| Catalog Issued date | Catalog Number | Item Description (On Delivery Label) |
|------------------------|---------------------|--------------------------------------|
| Prior to January 2013 | C1608C0G1E103J | C1608C0G1E103JT000N |
| January 2013 and Later | C1608C0G1E103J080AA | C1608C0G1E103JT000N |



CGA Series Conductive Epoxy Application

Type: CGA2 [EIA CC0402], CGA3 [EIA CC0603], CGA4 [EIA CC0402], CGA3 [EIA CC0603], CGA3 [EIA CC0603]

Features



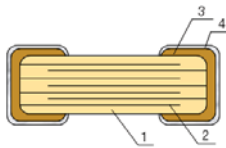
- AgPdCu termination for conductive glue mounting
- Reduce risk of silver migration
- Improved mechanical and thermal strength when use with conductive glue.
- AEC-Q200 compliant.
- Compliance with the RoHS Directive.

Applications



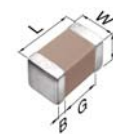
- Transmission control
- Engine sensor module
- Automotive power train
- Anti-Lock Breaking System
- Application requiring conductive glue mounting method

Design Structure



| No. | NAME | MATERIAL | |
|-----|--------------------|--------------------|--------------------|
| | | Class 1 | Class 2 |
| (1) | Ceramic Dielectric | CaZrO ₃ | BaTiO ₃ |
| (2) | Internal Electrode | Nickel (Ni) | |
| (3) | Termination | Copper (Cu) | |
| (4) | | AgPdCu | |

Shape & Dimensions



| | |
|---|------------------|
| L | Body Length |
| W | Body Width |
| T | Body Height |
| B | Terminal Width |
| G | Terminal Spacing |



Catalog Number Construction

CGA • 5 • L • 1 • X7R • 1E • 106 • K • 160 • A • D

Series Name

Dimensions L x W (mm)

| Code | Length | Width | Terminal |
|------|-------------------|-------------------|-----------|
| 2 | 1.00 ± 0.15 | 0.50 ± 0.10 | 0.10 min. |
| 3 | 1.60 ± 0.15 | 0.80 ± 0.15 | 0.20 min. |
| 4 | 2.00 ± 0.25 | 1.25 ± 0.25 | 0.20 min. |
| 5 | 3.20 + 0.30/-0.10 | 1.60 + 0.30/-0.10 | 0.20 min. |
| 6 | 3.20 ± 0.45 | 2.50 ± 0.30 | 0.20 min. |

Thickness T Code (mm)

| Code | Thickness | Code | Thickness |
|------|-----------|------|-----------|
| B | 0.50 mm | J | 1.25 mm |
| C | 0.60 mm | L | 1.60 mm |
| E | 0.80 mm | M | 2.00 mm |
| F | 0.85 mm | P | 2.50 mm |
| H | 1.15 mm | | |

Voltage Condition for Life Test

| Symbol | Condition |
|--------|------------|
| 1 | 1 × R.V. |
| 2 | 2 × R.V. |
| 3 | 1.5 × R.V. |

Temperature Characteristics

| Temperature Characteristics | Temperature Coefficient or Capacitance Change | Temperature Range |
|-----------------------------|---|-------------------|
| C0G | 0 ± 30ppm/°C | -55 to +125°C |
| X7R | ± 15% | -55 to +125°C |
| X8R | ± 15% | -55 to +150°C |

Rated Voltage (DC)

| Code | Voltage (DC) |
|------|--------------|
| 0J | 6.3V |
| 1C | 16V |
| 1E | 25V |
| 1V | 35V |
| 1H | 50V |
| 2A | 100V |

Nominal Capacitance (pF)

The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point. Ex. 0R2 = 0.2pF; 103 = 10,000pF

Capacitance Tolerance

| Code | Tolerance |
|------|-----------|
| C | ± 0.25pF |
| D | ± 0.50pF |
| J | ± 5% |
| K | ± 10% |
| M | ± 20% |

Nominal Thickness

| Code | Thickness | Code | Thickness |
|------|-----------|------|-----------|
| 050 | 0.50 mm | 125 | 1.25 mm |
| 060 | 0.60 mm | 160 | 1.60 mm |
| 080 | 0.80 mm | 200 | 2.00 mm |
| 085 | 0.85 mm | 250 | 2.50 mm |
| 115 | 1.15 mm | | |

Packaging Style

| Code | Style |
|------|-------------------------|
| A | 178 mm Reel, 4 mm Pitch |
| B | 178 mm Reel, 2 mm Pitch |

Special Reserved Code

| Code | Description |
|------|------------------|
| D | Conductive Epoxy |



Capacitance Range Chart

CGA2(1005) [EIA CC0402]

Capacitance Range Chart

Temperature Characteristics: C0G (0 ± 30ppm/°C), X7R (±15%), X8R (±15%)
 Rated Voltage: 50V (1H), 25V (1E), 16V (1C)

| Capacitance (pF) | Code | Tolerance | C0G | X7R | | | X8R | | |
|------------------|------|-------------|----------|----------|----------|----------|----------|----------|----------|
| | | | 1H (50V) | 1H (50V) | 1E (25V) | 1C (16V) | 1H (50V) | 1E (25V) | 1C (16V) |
| 1.0 | 010 | C: ± 0.25pF | ■ | | | | | | |
| 1.5 | 1R5 | D: ± 0.50pF | ■ | | | | | | |
| 2.0 | 020 | J: ± 5% | ■ | | | | | | |
| 2.2 | 2R2 | K: ± 10% | ■ | | | | | | |
| 3.0 | 030 | M: ± 20% | ■ | | | | | | |
| 3.3 | 3R3 | | ■ | | | | | | |
| 4.0 | 040 | | ■ | | | | | | |
| 4.7 | 4R7 | | ■ | | | | | | |
| 5.0 | 050 | | ■ | | | | | | |
| 6.0 | 060 | | ■ | | | | | | |
| 6.8 | 6R8 | | ■ | | | | | | |
| 7.0 | 070 | | ■ | | | | | | |
| 8.0 | 080 | | ■ | | | | | | |
| 9.0 | 090 | | ■ | | | | | | |
| 10 | 100 | | ■ | | | | | | |
| 12 | 120 | | ■ | | | | | | |
| 15 | 150 | | ■ | | | | | | |
| 18 | 180 | | ■ | | | | | | |
| 22 | 220 | | ■ | | | | | | |
| 27 | 270 | | ■ | | | | | | |
| 33 | 330 | | ■ | | | | | | |
| 39 | 390 | | ■ | | | | | | |
| 47 | 470 | | ■ | | | | | | |
| 56 | 560 | | ■ | | | | | | |
| 68 | 680 | | ■ | | | | | | |
| 82 | 820 | | ■ | | | | | | |
| 100 | 101 | | ■ | | | | | | |
| 120 | 121 | | ■ | | | | ■ | | |
| 150 | 151 | | ■ | | | | ■ | | |
| 180 | 181 | | ■ | | | | ■ | | |
| 220 | 221 | | ■ | | | | ■ | | |
| 270 | 271 | | ■ | | | | ■ | | |
| 330 | 331 | | ■ | | | | ■ | | |
| 390 | 391 | | ■ | | | | ■ | | |
| 470 | 471 | | ■ | | | | ■ | | |
| 560 | 561 | | ■ | | | | ■ | | |
| 680 | 681 | | ■ | | | | ■ | | |
| 820 | 821 | | ■ | | | | ■ | | |
| 1,000 | 102 | | ■ | | | | ■ | | |
| 1,500 | 152 | | ■ | | | | ■ | | |
| 2,200 | 222 | | ■ | | | | ■ | | |
| 3,300 | 332 | | ■ | | | | ■ | | |
| 4,700 | 472 | | ■ | | | | ■ | | |
| 6,800 | 682 | | ■ | | | | ■ | | |
| 10,000 | 103 | | ■ | ■ | | | ■ | ■ | |
| 15,000 | 153 | | ■ | ■ | | | ■ | ■ | |
| 22,000 | 223 | | ■ | ■ | ■ | | ■ | ■ | |
| 33,000 | 333 | | ■ | ■ | ■ | ■ | ■ | ■ | |
| 47,000 | 473 | | ■ | ■ | ■ | ■ | ■ | ■ | |
| 68,000 | 683 | | ■ | ■ | ■ | ■ | ■ | ■ | |
| 100,000 | 104 | | ■ | ■ | ■ | ■ | ■ | ■ | |

Standard Thickness

■ 0.50 mm



Capacitance Range Chart

CGA3(1608) [EIA CC0603]

Capacitance Range Chart

Temperature Characteristics: C0G ($0 \pm 30\text{ppm}/^\circ\text{C}$)
 Rated Voltage: 100V (2A), 50V (1H)

| Capacitance (pF) | Code | Tolerance | C0G | |
|------------------|------|--|-----------|----------|
| | | | 2A (100V) | 1H (50V) |
| 1.0 | 010 | C: $\pm 0.25\text{pF}$ D: $\pm 0.50\text{pF}$ | | |
| 1.5 | 1R5 | | | |
| 2.0 | 020 | | | |
| 2.2 | 2R2 | | | |
| 3.0 | 030 | | | |
| 3.3 | 3R3 | | | |
| 4.0 | 040 | | | |
| 4.7 | 4R7 | | | |
| 5.0 | 050 | | | |
| 6.0 | 060 | | | |
| 6.8 | 6R8 | | | |
| 7.0 | 070 | | | |
| 8.0 | 080 | | | |
| 9.0 | 090 | | | |
| 10 | 100 | | | |
| 12 | 120 | | | |
| 15 | 150 | | | |
| 18 | 180 | | | |
| 22 | 220 | | | |
| 27 | 270 | | | |
| 33 | 330 | | | |
| 39 | 390 | | | |
| 47 | 470 | | | |
| 56 | 560 | | | |
| 68 | 680 | | | |
| 82 | 820 | | | |
| 100 | 101 | | | |
| 120 | 121 | | | |
| 150 | 151 | | | |
| 180 | 181 | | | |
| 220 | 221 | | | |
| 270 | 271 | | | |
| 330 | 331 | | | |
| 390 | 391 | | | |
| 470 | 471 | | | |
| 560 | 561 | | | |
| 680 | 681 | | | |
| 820 | 821 | | | |
| 1,000 | 102 | | | |
| 1,200 | 122 | | | |
| 1,500 | 152 | | | |
| 1,800 | 182 | | | |
| 2,200 | 222 | | | |
| 2,700 | 272 | | | |
| 3,300 | 332 | | | |
| 3,900 | 392 | | | |
| 4,700 | 472 | | | |
| 5,600 | 562 | | | |
| 6,800 | 682 | | | |
| 8,200 | 822 | | | |
| 10,000 | 103 | | | |

Standard Thickness

 0.80 mm

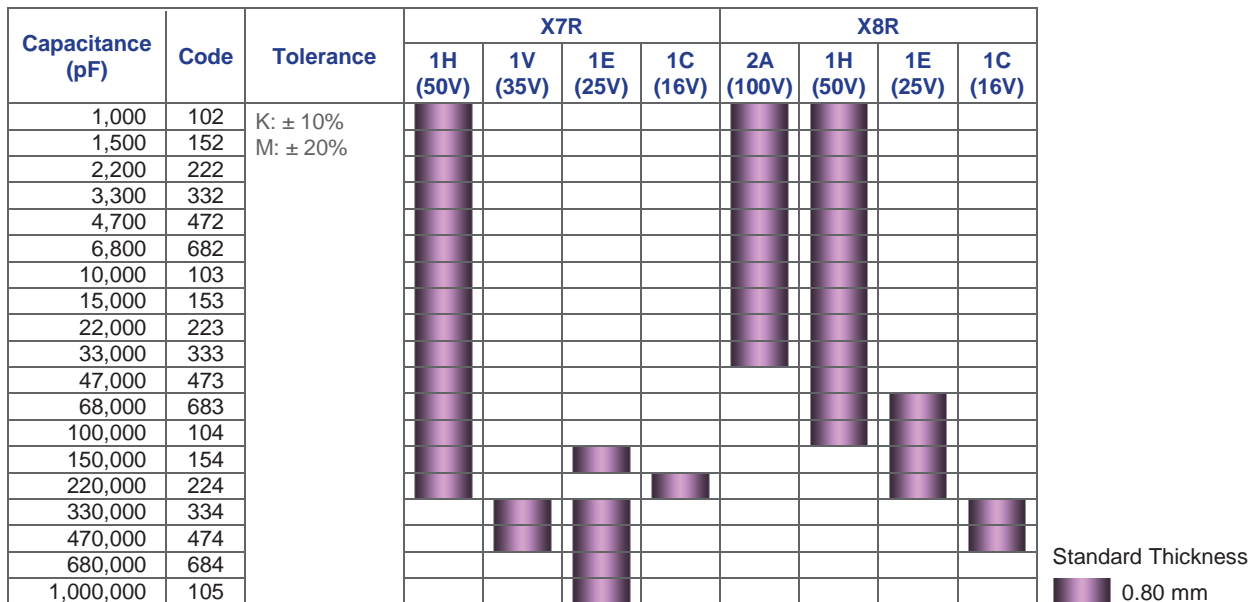


Capacitance Range Chart

CGA3(1608) [EIA CC0603]

Capacitance Range Chart

Temperature Characteristics: X7R ($\pm 15\%$), X8R ($\pm 15\%$)
 Rated Voltage: 100V (2A), 50V (1H), 35V (1V), 25V (1E), 16V (1C)

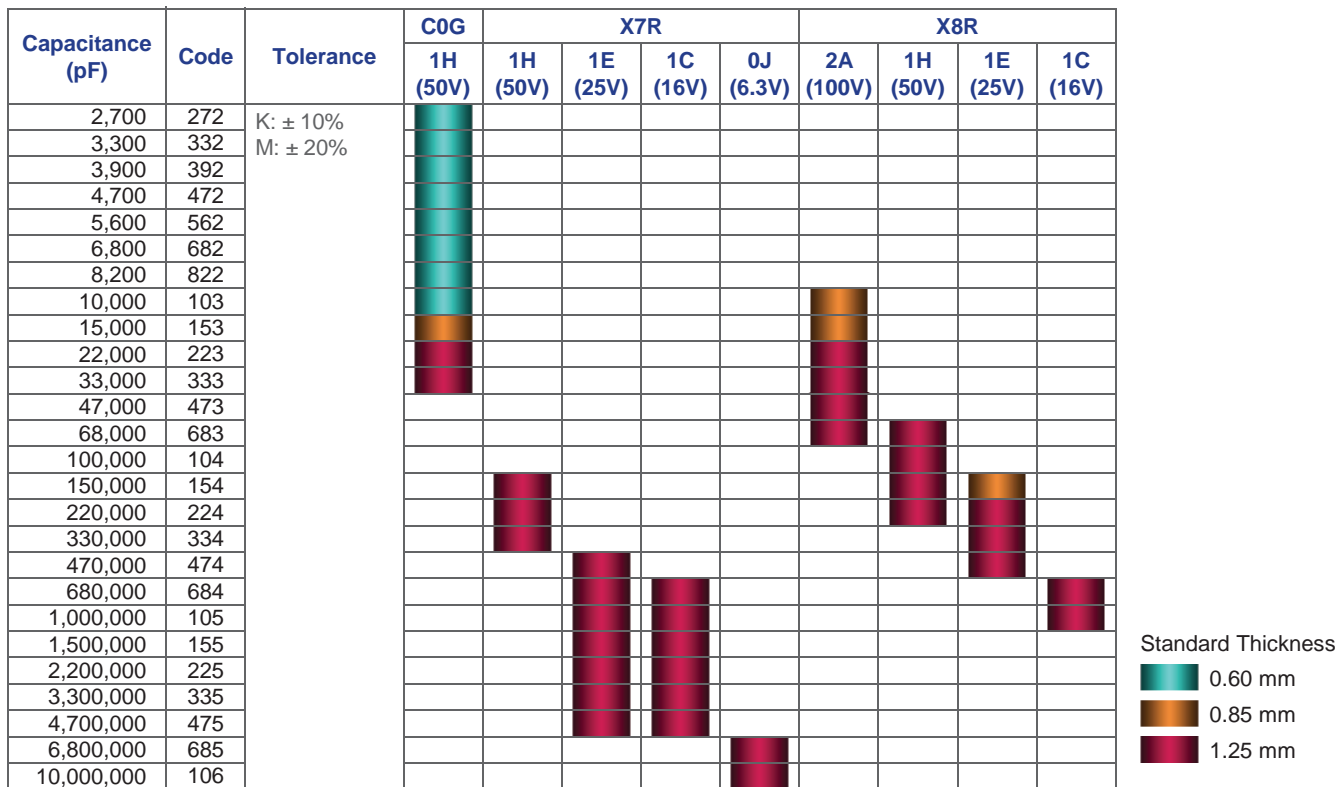


Capacitance Range Chart

CGA4(2012) [EIA CC0805]

Capacitance Range Chart

Temperature Characteristics: X7R ($\pm 15\%$), X8R ($\pm 15\%$)
 Rated Voltage: 100V (2A), 50V (1H), 25V (1V), 25V (1E), 16V (1C)



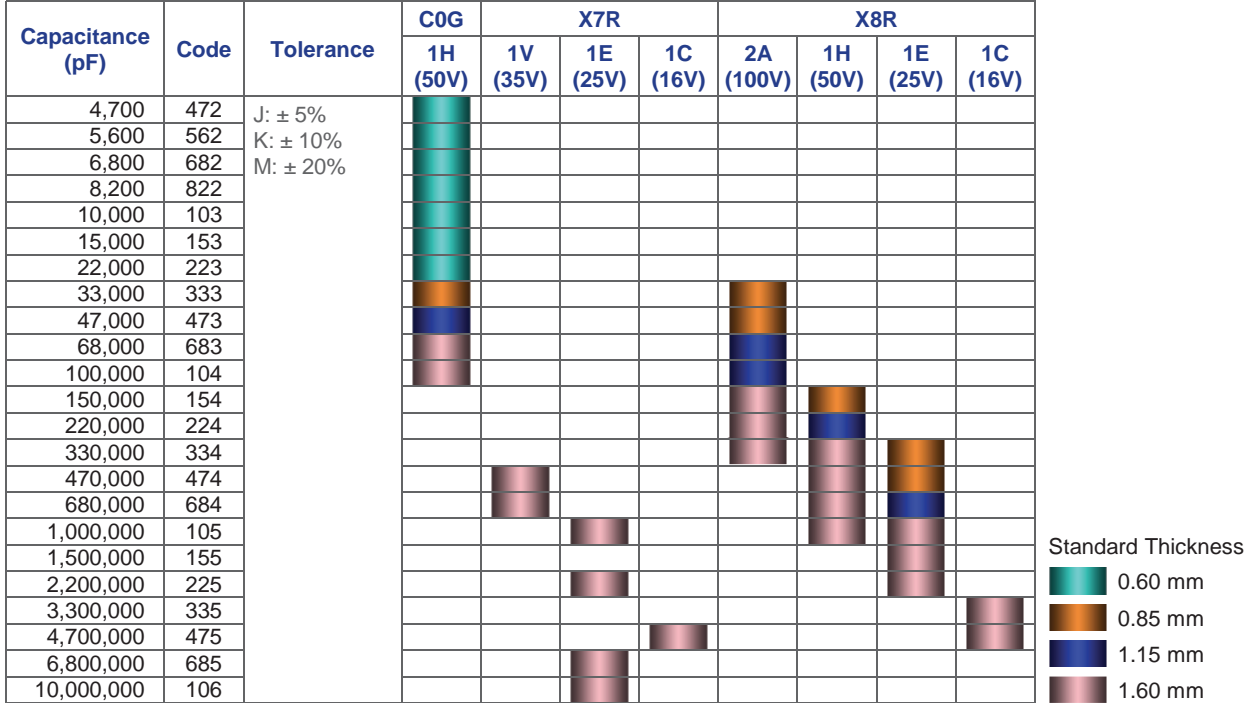


Capacitance Range Chart

CGA5(3216)[EIA CC1206]

Capacitance Range Chart

Temperature Characteristics: C0G (0 ± 30ppm/°C), X7R (±15%), X8R (±15%)
 Rated Voltage: 100V (2A), 50V (1H), 35V (1V), 25V (1E), 16V (1C)

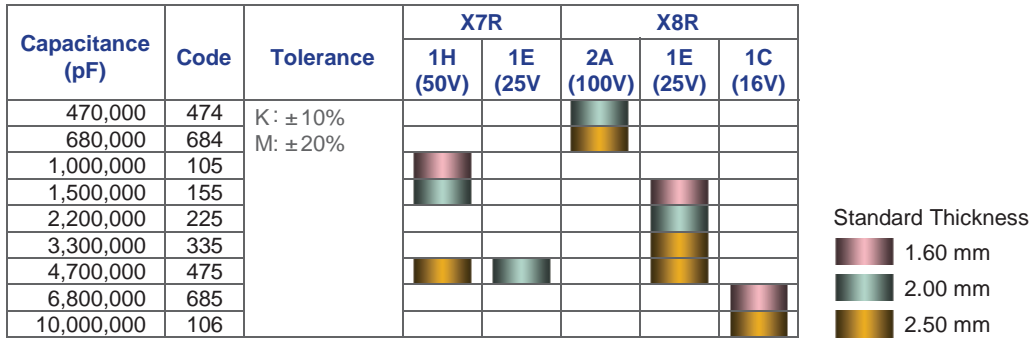


Capacitance Range Chart

CGA6(3225)[EIA CC1210]

Capacitance Range Chart

Temperature Characteristics: X7R (±15%), X8R (±15%)
 Rated Voltage: 100V (2A), 50V (1H), 25V (1E), 16V (1C)





Capacitance Range Table

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to +125°C, 0±30 ppm/°C)

| Capacitance | Size | Thickness (mm) | Capacitance Tolerance | Catalog Number | | | |
|-------------|------|----------------|-----------------------|-------------------------|------------------------|------------------------|------------------------|
| | | | | Rated Voltage Edc: 100V | Rated Voltage Edc: 50V | Rated Voltage Edc: 25V | Rated Voltage Edc: 16V |
| 1 pF | 1005 | 0.50 ± 0.10 | ± 0.25pF | | CGA2B2C0G1H010C050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.25pF | CGA3E2C0G2A010C080AD | CGA3E2C0G1H010C080AD | | |
| 1.5 pF | 1005 | 0.50 ± 0.10 | ± 0.25pF | | CGA2B2C0G1H1R5C050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.25pF | CGA3E2C0G2A1R5C080AD | CGA3E2C0G1H1R5C080AD | | |
| 2 pF | 1005 | 0.50 ± 0.10 | ± 0.25pF | | CGA2B2C0G1H020C050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.25pF | CGA3E2C0G2A020C080AD | CGA3E2C0G1H020C080AD | | |
| 2.2 pF | 1005 | 0.50 ± 0.10 | ± 0.25pF | | CGA2B2C0G1H2R2C050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.25pF | CGA3E2C0G2A2R2C080AD | CGA3E2C0G1H2R2C080AD | | |
| 3 pF | 1005 | 0.50 ± 0.10 | ± 0.25pF | | CGA2B2C0G1H030C050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.25pF | CGA3E2C0G2A030C080AD | CGA3E2C0G1H030C080AD | | |
| 3.3 pF | 1005 | 0.50 ± 0.10 | ± 0.25pF | | CGA2B2C0G1H3R3C050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.25pF | CGA3E2C0G2A3R3C080AD | CGA3E2C0G1H3R3C080AD | | |
| 4 pF | 1005 | 0.50 ± 0.10 | ± 0.25pF | | CGA2B2C0G1H040C050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.25pF | CGA3E2C0G2A040C080AD | CGA3E2C0G1H040C080AD | | |
| 4.7 pF | 1005 | 0.50 ± 0.10 | ± 0.25pF | | CGA2B2C0G1H4R7C050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.25pF | CGA3E2C0G2A4R7C080AD | CGA3E2C0G1H4R7C080AD | | |
| 5 pF | 1005 | 0.50 ± 0.10 | ± 0.25pF | | CGA2B2C0G1H050C050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.25pF | CGA3E2C0G2A050C080AD | CGA3E2C0G1H050C080AD | | |
| 6 pF | 1005 | 0.50 ± 0.10 | ± 0.50pF | | CGA2B2C0G1H060D050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.50pF | CGA3E2C0G2A060D080AD | CGA3E2C0G1H060D080AD | | |
| 6.8 pF | 1005 | 0.50 ± 0.10 | ± 0.50pF | | CGA2B2C0G1H6R8D050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.50pF | CGA3E2C0G2A6R8D080AD | CGA3E2C0G1H6R8D080AD | | |
| 7 pF | 1005 | 0.50 ± 0.10 | ± 0.50pF | | CGA2B2C0G1H070D050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.50pF | CGA3E2C0G2A070D080AD | CGA3E2C0G1H070D080AD | | |
| 8 pF | 1005 | 0.50 ± 0.10 | ± 0.50pF | | CGA2B2C0G1H080D050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.50pF | CGA3E2C0G2A080D080AD | CGA3E2C0G1H080D080AD | | |
| 9 pF | 1005 | 0.50 ± 0.10 | ± 0.50pF | | CGA2B2C0G1H090D050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.50pF | CGA3E2C0G2A090D080AD | CGA3E2C0G1H090D080AD | | |
| 10 pF | 1005 | 0.50 ± 0.10 | ± 0.50pF | | CGA2B2C0G1H100D050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 0.50pF | CGA3E2C0G2A100D080AD | CGA3E2C0G1H100D080AD | | |
| 12 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H120J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A120J080AD | CGA3E2C0G1H120J080AD | | |
| 15 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H150J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A150J080AD | CGA3E2C0G1H150J080AD | | |
| 18 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H180J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A180J080AD | CGA3E2C0G1H180J080AD | | |
| 22 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H220J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A220J080AD | CGA3E2C0G1H220J080AD | | |
| 27 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H270J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A270J080AD | CGA3E2C0G1H270J080AD | | |
| 33 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H330J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A330J080AD | CGA3E2C0G1H330J080AD | | |
| 39 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H390J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A390J080AD | CGA3E2C0G1H390J080AD | | |
| 47 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H470J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A470J080AD | CGA3E2C0G1H470J080AD | | |
| 56 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H560J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A560J080AD | CGA3E2C0G1H560J080AD | | |
| 68 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H680J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A680J080AD | CGA3E2C0G1H680J080AD | | |
| 82 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H820J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A820J080AD | CGA3E2C0G1H820J080AD | | |
| 100 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H101J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A101J080AD | CGA3E2C0G1H101J080AD | | |
| 120 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H121J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A121J080AD | CGA3E2C0G1H121J080AD | | |
| 150 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H151J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A151J080AD | CGA3E2C0G1H151J080AD | | |
| 180 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H181J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A181J080AD | CGA3E2C0G1H181J080AD | | |



Capacitance Range Table

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to +125°C, 0±30 ppm/°C)

| Capacitance | Size | Thickness (mm) | Capacitance Tolerance | Catalog Number | | | |
|-------------|------|------------------|-----------------------|-------------------------|------------------------|------------------------|------------------------|
| | | | | Rated Voltage Edc: 100V | Rated Voltage Edc: 50V | Rated Voltage Edc: 25V | Rated Voltage Edc: 16V |
| 220 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H221J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A221J080AD | CGA3E2C0G1H221J080AD | | |
| 270 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H271J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A271J080AD | CGA3E2C0G1H271J080AD | | |
| 330 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H331J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A331J080AD | CGA3E2C0G1H331J080AD | | |
| 390 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H391J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A391J080AD | CGA3E2C0G1H391J080AD | | |
| 470 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H471J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A471J080AD | CGA3E2C0G1H471J080AD | | |
| 560 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H561J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A561J080AD | CGA3E2C0G1H561J080AD | | |
| 680 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H681J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A681J080AD | CGA3E2C0G1H681J080AD | | |
| 820 pF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H821J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A821J080AD | CGA3E2C0G1H821J080AD | | |
| 1 nF | 1005 | 0.50 ± 0.10 | ± 5% | | CGA2B2C0G1H102J050BD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A102J080AD | CGA3E2C0G1H102J080AD | | |
| 1.2 nF | 1608 | 0.80 ± 0.15 | ± 5% | CGA3E2C0G2A122J080AD | CGA3E2C0G1H122J080AD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | | CGA3E2C0G1H152J080AD | | |
| 1.5 nF | 1608 | 0.80 ± 0.15 | ± 5% | | CGA3E2C0G1H182J080AD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | | CGA3E2C0G1H222J080AD | | |
| 2.2 nF | 1608 | 0.80 ± 0.15 | ± 5% | | CGA3E2C0G1H272J080AD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | | CGA4C2C0G1H272J060AD | | |
| 2.7 nF | 1608 | 0.80 ± 0.15 | ± 5% | | CGA3E2C0G1H332J080AD | | |
| | 2012 | 0.60 ± 0.15 | ± 5% | | CGA4C2C0G1H332J060AD | | |
| 3.3 nF | 1608 | 0.80 ± 0.15 | ± 5% | | CGA3E2C0G1H392J080AD | | |
| | 2012 | 0.60 ± 0.15 | ± 5% | | CGA4C2C0G1H392J060AD | | |
| 3.9 nF | 1608 | 0.80 ± 0.15 | ± 5% | | CGA3E2C0G1H472J080AD | | |
| | 2012 | 0.60 ± 0.15 | ± 5% | | CGA4C2C0G1H472J060AD | | |
| 4.7 nF | 3216 | 0.60 ± 0.15 | ± 5% | | CGA5C2C0G1H472J060AD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | | CGA3E2C0G1H562J080AD | | |
| 5.6 nF | 2012 | 0.60 ± 0.15 | ± 5% | | CGA4C2C0G1H562J060AD | | |
| | 3216 | 0.60 ± 0.15 | ± 5% | | CGA5C2C0G1H562J060AD | | |
| 6.8 nF | 1608 | 0.80 ± 0.15 | ± 5% | | CGA3E2C0G1H682J080AD | | |
| | 2012 | 0.60 ± 0.15 | ± 5% | | CGA4C2C0G1H682J060AD | | |
| 8.2 nF | 3216 | 0.60 ± 0.15 | ± 5% | | CGA5C2C0G1H682J060AD | | |
| | 1608 | 0.80 ± 0.15 | ± 5% | | CGA3E2C0G1H103J080AD | | |
| 10 nF | 2012 | 0.60 ± 0.15 | ± 5% | | CGA4C2C0G1H103J060AD | | |
| | 3216 | 0.60 ± 0.15 | ± 5% | | CGA5C2C0G1H103J060AD | | |
| 15 nF | 2012 | 0.85 ± 0.15 | ± 5% | | CGA4F2C0G1H153J085AD | | |
| | 3216 | 0.60 ± 0.15 | ± 5% | | CGA5C2C0G1H153J060AD | | |
| 22 nF | 2012 | 1.25 ± 0.25 | ± 5% | | CGA4J2C0G1H223J125AD | | |
| | 3216 | 0.60 ± 0.15 | ± 5% | | CGA5C2C0G1H223J060AD | | |
| 33 nF | 2012 | 1.25 ± 0.25 | ± 5% | | CGA4J2C0G1H333J125AD | | |
| | 3216 | 0.85 ± 0.15 | ± 5% | | CGA5F2C0G1H333J085AD | | |
| 47 nF | 3216 | 1.15 ± 0.15 | ± 5% | | CGA5H2C0G1H473J115AD | | |
| 68 nF | 3216 | 1.60 +0.30/-0.10 | ± 5% | | CGA5L2C0G1H683J160AD | | |
| 100 nF | 3216 | 1.60 +0.30/-0.10 | ± 5% | | CGA5L2C0G1H104J160AD | | |



Capacitance Range Table

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%)

| Capacitance | Size | Thickness (mm) | Capacitance Tolerance | Catalog Number | | | |
|-------------|------|----------------|-----------------------|------------------------|------------------------|------------------------|------------------------|
| | | | | Rated Voltage Edc: 50V | Rated Voltage Edc: 35V | Rated Voltage Edc: 25V | Rated Voltage Edc: 16V |
| 1 nF | 1608 | 0.80 ±0.15 | ± 10% | CGA3E2X7R1H102K080AD | | | |
| | | | ± 20% | CGA3E2X7R1H102M080AD | | | |
| 1.5 nF | 1608 | 0.80 ±0.15 | ± 10% | CGA3E2X7R1H152K080AD | | | |
| | | | ± 20% | CGA3E2X7R1H152M080AD | | | |
| 2.2 nF | 1608 | 0.80 ±0.15 | ± 10% | CGA3E2X7R1H222K080AD | | | |
| | | | ± 20% | CGA3E2X7R1H222M080AD | | | |
| 3.3 nF | 1608 | 0.80 ±0.15 | ± 10% | CGA3E2X7R1H332K080AD | | | |
| | | | ± 20% | CGA3E2X7R1H332M080AD | | | |
| 4.7 nF | 1608 | 0.80 ±0.15 | ± 10% | CGA3E2X7R1H472K080AD | | | |
| | | | ± 20% | CGA3E2X7R1H472M080AD | | | |
| 6.8 nF | 1608 | 0.80 ±0.15 | ± 10% | CGA3E2X7R1H682K080AD | | | |
| | | | ± 20% | CGA3E2X7R1H682M080AD | | | |
| 10 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA2B3X7R1H103K050BD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA2B3X7R1H103M050BD | | | |
| 15 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA3E2X7R1H103K080AD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA3E2X7R1H103M080AD | | | |
| 22 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA2B2X7R1E153K050BD | | CGA2B2X7R1E153K050BD | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA2B2X7R1E153M050BD | | CGA2B2X7R1E153M050BD | |
| 33 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA3E2X7R1H153K080AD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA3E2X7R1H153M080AD | | | |
| 47 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA2B3X7R1H223K050BD | | CGA2B2X7R1E223K050BD | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA2B3X7R1H223M050BD | | CGA2B2X7R1E223M050BD | |
| 68 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA3E2X7R1H223K080AD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA3E2X7R1H223M080AD | | | |
| 100 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA2B3X7R1H333K050BD | | | CGA2B2X7R1C333K050BD |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA2B3X7R1H333M050BD | | | CGA2B2X7R1C333M050BD |
| 150 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA3E2X7R1H333K080AD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA3E2X7R1H333M080AD | | | |
| 220 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA2B3X7R1H473K050BD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA2B3X7R1H473M050BD | | | |
| 330 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA3E2X7R1H473K080AD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA3E2X7R1H473M080AD | | | |
| 470 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA2B3X7R1H683K050BD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA2B3X7R1H683M050BD | | | |
| 680 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA3E2X7R1H683K080AD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA3E2X7R1H683M080AD | | | |
| 1000 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA2B3X7R1H104K050BD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA2B3X7R1H104M050BD | | | |
| 1500 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA3E2X7R1H104K080AD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA3E2X7R1H104M080AD | | | |
| 2200 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA3E3X7R1H154K080AD | | CGA3E2X7R1E154K080AD | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA3E3X7R1H154M080AD | | CGA3E2X7R1E154M080AD | |
| 3300 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA4J2X7R1H154K125AD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA4J2X7R1H154M125AD | | | |
| 4700 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA3E3X7R1H224K080AD | | | CGA3E2X7R1C224K080AD |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA3E3X7R1H224M080AD | | | CGA3E2X7R1C224M080AD |
| 6800 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA4J2X7R1H224K125AD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA4J2X7R1H224M125AD | | | |
| 10000 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA3E1X7R1V334K080AD | CGA3E3X7R1E334K080AD | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA3E1X7R1V334M080AD | CGA3E3X7R1E334M080AD | | |
| 15000 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA4J2X7R1H334K125AD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA4J2X7R1H334M125AD | | | |
| 22000 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA3E1X7R1V474K080AD | CGA3E3X7R1E474K080AD | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA3E1X7R1V474M080AD | CGA3E3X7R1E474M080AD | | |
| 33000 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA4J2X7R1E474K125AD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA4J2X7R1E474M125AD | | | |
| 47000 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA5L2X7R1H474K160AD | | | |
| | 1608 | 0.80 ±0.15 | ± 20% | CGA5L2X7R1H474M160AD | | | |



Capacitance Range Table

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%)

| Capacitance | Size | Thickness (mm) | Capacitance Tolerance | Catalog Number | | |
|-------------|-------------|------------------|-----------------------|------------------------|------------------------|------------------------|
| | | | | Rated Voltage Edc: 50V | Rated Voltage Edc: 25V | Rated Voltage Edc: 16V |
| 680 nF | 1608 | 0.80 ±0.15 | ± 10% | CGA3E1X7R1E684K080AD | | |
| | | | ± 20% | CGA3E1X7R1E684M080AD | | |
| | 2012 | 1.25 ±0.25 | ± 10% | CGA4J3X7R1E684K125AD | CGA4J2X7R1C684K125AD | |
| | | | ± 20% | CGA4J3X7R1E684M125AD | CGA4J2X7R1C684M125AD | |
| | 3216 | 1.60 +0.30/-0.10 | ± 10% | CGA5L2X7R1H684K160AD | | |
| | | | ± 20% | CGA5L2X7R1H684M160AD | | |
| 1 µF | 1608 | 0.80 ±0.15 | ± 10% | CGA3E1X7R1E105K080AD | | |
| | | | ± 20% | CGA3E1X7R1E105M080AD | | |
| | 2012 | 1.25 ±0.25 | ± 10% | CGA4J3X7R1E105K125AD | CGA4J2X7R1C105K125AD | |
| | | | ± 20% | CGA4J3X7R1E105M125AD | CGA4J2X7R1C105M125AD | |
| | 3216 | 1.60 +0.30/-0.10 | ± 10% | CGA5L2X7R1E105K160AD | | |
| | | | ± 20% | CGA5L2X7R1E105M160AD | | |
| 3225 | 1.60 ± 0.20 | ± 10% | CGA6L2X7R1H105K160AD | | | |
| | | ± 20% | CGA6L2X7R1H105M160AD | | | |
| 1.5 µF | 2012 | 1.25 ±0.25 | ± 10% | CGA4J1X7R1E155K125AD | | |
| | | | ± 20% | CGA4J1X7R1E155M125AD | | |
| | 3225 | 2.00 ± 0.20 | ± 10% | CGA6M2X7R1H155K200AD | | |
| | | | ± 20% | CGA6M2X7R1H155M200AD | | |
| 2.2 µF | 2012 | 1.25 ±0.25 | ± 10% | CGA4J3X7R1E225K125AD | | |
| | | | ± 20% | CGA4J3X7R1E225M125AD | | |
| | 3216 | 1.60 +0.30/-0.10 | ± 10% | CGA5L2X7R1E225K160AD | | |
| ± 20% | | | CGA5L2X7R1E225M160AD | | | |
| 3.3 µF | 2012 | 1.25 ±0.25 | ± 10% | CGA4J1X7R1E335K125AD | CGA4J3X7R1C335K125AD | |
| | | | ± 20% | CGA4J1X7R1E335M125AD | CGA4J3X7R1C335M125AD | |
| | 4.7 µF | 2012 | 1.25 +0.30/-0.25 | ± 10% | CGA4J1X7R1E475K125AD | CGA4J3X7R1C475K125AD |
| ± 20% | | | | CGA4J1X7R1E475M125AD | CGA4J3X7R1C475M125AD | |
| 3216 | | 1.60 +0.30/-0.10 | ± 10% | CGA5L3X7R1C475K160AD | | |
| | ± 20% | | CGA5L3X7R1C475M160AD | | | |
| 6.8 µF | 2012 | 1.25 ±0.25 | ± 10% | CGA6M2X7R1E475K200AD | | |
| | | | ± 20% | CGA6M2X7R1E475M200AD | | |
| | 3225 | 2.00 ± 0.20 | ± 10% | CGA6P3X7R1H475K250AD | | |
| ± 20% | | | CGA6P3X7R1H475M250AD | | | |
| 10 µF | 2012 | 1.25 ±0.25 | ± 10% | CGA4J1X7R0J685K125AD | | |
| | | | ± 20% | CGA4J1X7R0J685M125AD | | |
| | 3216 | 1.60 +0.30/-0.10 | ± 10% | CGA5L1X7R1E685K160AD | | |
| ± 20% | | | CGA5L1X7R1E685M160AD | | | |
| 10 µF | 2012 | 1.25 ±0.25 | ± 10% | CGA4J1X7R0J106K125AD | | |
| | | | ± 20% | CGA4J1X7R0J106M125AD | | |
| | 3216 | 1.60 +0.30/-0.10 | ± 10% | CGA5L1X7R1E106K160AD | | |
| ± 20% | | | CGA5L1X7R1E106M160AD | | | |

Class 2 (Temperature Stable)

Temperature Characteristics: X8R (-55 to +150°C, ±15%)

| Capacitance | Size | Thickness (mm) | Capacitance Tolerance | Catalog Number | | |
|-------------|------|----------------|-----------------------|-------------------------|------------------------|------------------------|
| | | | | Rated Voltage Edc: 100V | Rated Voltage Edc: 25V | Rated Voltage Edc: 16V |
| 150 pF | 1005 | 0.50 ± 0.10 | ± 10% | CGA2B2X8R1H151K050BD | | |
| | | | ± 20% | CGA2B2X8R1H151M050BD | | |
| 220 pF | 1005 | 0.50 ± 0.10 | ± 10% | CGA2B2X8R1H221K050BD | | |
| | | | ± 20% | CGA2B2X8R1H221M050BD | | |
| 330 pF | 1005 | 0.50 ± 0.10 | ± 10% | CGA2B2X8R1H331K050BD | | |
| | | | ± 20% | CGA2B2X8R1H331M050BD | | |
| 470 pF | 1005 | 0.50 ± 0.10 | ± 10% | CGA2B2X8R1H471K050BD | | |
| | | | ± 20% | CGA2B2X8R1H471M050BD | | |
| 680 pF | 1005 | 0.50 ± 0.10 | ± 10% | CGA2B2X8R1H681K050BD | | |
| | | | ± 20% | CGA2B2X8R1H681M050BD | | |
| 1 nF | 1005 | 0.50 ± 0.10 | ± 10% | CGA2B2X8R1H102K050BD | | |
| | | | ± 20% | CGA2B2X8R1H102M050BD | | |
| | 1608 | 0.80 ±0.15 | ± 10% | CGA3E2X8R2A102K080AD | CGA3E2X8R1H102K080AD | |
| ± 20% | | | CGA3E2X8R2A102M080AD | CGA3E2X8R1H102M080AD | | |



Capacitance Range Table

Class 2 (Temperature Stable)

Temperature Characteristics: X8R (-55 to +150°C, ±15%)

| Capacitance | Size | Thickness (mm) | Capacitance Tolerance | Catalog Number | | |
|-------------|-------------|----------------|-----------------------|-------------------------|------------------------|------------------------|
| | | | | Rated Voltage Edc: 100V | Rated Voltage Edc: 50V | Rated Voltage Edc: 25V |
| 1.5 nF | 1005 | 0.50 ± 0.10 | ± 10% | | CGA2B2X8R1H152K050BD | |
| | | | ± 20% | | CGA2B2X8R1H152M050BD | |
| | 1608 | 0.80 ± 0.15 | ± 10% | CGA3E2X8R2A152K080AD | CGA3E2X8R1H152K080AD | |
| | | | ± 20% | CGA3E2X8R2A152M080AD | CGA3E2X8R1H152M080AD | |
| 2.2 nF | 1005 | 0.50 ± 0.10 | ± 10% | | CGA2B2X8R1H222K050BD | |
| | | | ± 20% | | CGA2B2X8R1H222M050BD | |
| | 1608 | 0.80 ± 0.15 | ± 10% | CGA3E2X8R2A222K080AD | CGA3E2X8R1H222K080AD | |
| | | | ± 20% | CGA3E2X8R2A222M080AD | CGA3E2X8R1H222M080AD | |
| 3.3 nF | 1005 | 0.50 ± 0.10 | ± 10% | | CGA2B2X8R1H332K050BD | |
| | | | ± 20% | | CGA2B2X8R1H332M050BD | |
| | 1608 | 0.80 ± 0.15 | ± 10% | CGA3E2X8R2A332K080AD | CGA3E2X8R1H332K080AD | |
| | | | ± 20% | CGA3E2X8R2A332M080AD | CGA3E2X8R1H332M080AD | |
| 4.7 nF | 1005 | 0.50 ± 0.10 | ± 10% | | CGA2B2X8R1H472K050BD | |
| | | | ± 20% | | CGA2B2X8R1H472M050BD | |
| | 1608 | 0.80 ± 0.15 | ± 10% | CGA3E2X8R2A472K080AD | CGA3E2X8R1H472K080AD | |
| | | | ± 20% | CGA3E2X8R2A472M080AD | CGA3E2X8R1H472M080AD | |
| 6.8 nF | 1005 | 0.50 ± 0.10 | ± 10% | | CGA2B3X8R1H682K050BD | CGA2B2X8R1E682K050BD |
| | | | ± 20% | | CGA2B3X8R1H682M050BD | CGA2B2X8R1E682M050BD |
| | 1608 | 0.80 ± 0.15 | ± 10% | CGA3E2X8R2A682K080AD | CGA3E2X8R1H682K080AD | |
| | | | ± 20% | CGA3E2X8R2A682M080AD | CGA3E2X8R1H682M080AD | |
| 10 nF | 1005 | 0.50 ± 0.10 | ± 10% | | CGA2B3X8R1H103K050BD | CGA2B2X8R1E103K050BD |
| | | | ± 20% | | CGA2B3X8R1H103M050BD | CGA2B2X8R1E103M050BD |
| | 1608 | 0.80 ± 0.15 | ± 10% | CGA3E2X8R2A103K080AD | CGA3E2X8R1H103K080AD | |
| | | | ± 20% | CGA3E2X8R2A103M080AD | CGA3E2X8R1H103M080AD | |
| 15 nF | 2012 | 0.85 ± 0.15 | ± 10% | CGA4F2X8R2A103K085AD | | |
| | | | ± 20% | CGA4F2X8R2A103M085AD | | |
| | 1005 | 0.50 ± 0.10 | ± 10% | | | CGA2B3X8R1E153K050BD |
| | | | ± 20% | | | CGA2B3X8R1E153M050BD |
| 1608 | 0.80 ± 0.15 | ± 10% | CGA3E2X8R2A153K080AD | CGA3E2X8R1H153K080AD | | |
| | | ± 20% | CGA3E2X8R2A153M080AD | CGA3E2X8R1H153M080AD | | |
| 22 nF | 2012 | 0.85 ± 0.15 | ± 10% | CGA4F2X8R2A153K085AD | | |
| | | | ± 20% | CGA4F2X8R2A153M085AD | | |
| | 1005 | 0.50 ± 0.10 | ± 10% | | | CGA2B3X8R1E223K050BD |
| | | | ± 20% | | | CGA2B3X8R1E223M050BD |
| 1608 | 0.80 ± 0.15 | ± 10% | CGA3E3X8R2A223K080AD | CGA3E2X8R1H223K080AD | | |
| | | ± 20% | CGA3E3X8R2A223M080AD | CGA3E2X8R1H223M080AD | | |
| 33 nF | 2012 | 1.25 ± 0.25 | ± 10% | CGA4J2X8R2A223K125AD | | |
| | | | ± 20% | CGA4J2X8R2A223M125AD | | |
| | 1005 | 0.50 ± 0.10 | ± 10% | | | CGA2B3X8R1C333K050BD |
| | | | ± 20% | | | CGA2B3X8R1C333M050BD |
| 1608 | 0.80 ± 0.15 | ± 10% | CGA3E3X8R2A333K080AD | CGA3E2X8R1H333K080AD | | |
| | | ± 20% | CGA3E3X8R2A333M080AD | CGA3E2X8R1H333M080AD | | |
| 47 nF | 2012 | 1.25 ± 0.25 | ± 10% | CGA4J3X8R2A333K125AD | | |
| | | | ± 20% | CGA4J3X8R2A333M125AD | | |
| | 3216 | 0.85 ± 0.15 | ± 10% | CGA5F2X8R2A333K085AD | | |
| | | | ± 20% | CGA5F2X8R2A333M085AD | | |
| 1005 | 0.50 ± 0.10 | ± 10% | | | CGA2B3X8R1C473K050BD | |
| | | ± 20% | | | CGA2B3X8R1C473M050BD | |
| 1608 | 0.80 ± 0.15 | ± 10% | | CGA3E2X8R1H473K080AD | | |
| | | ± 20% | | CGA3E2X8R1H473M080AD | | |
| 68 nF | 2012 | 1.25 ± 0.25 | ± 10% | CGA4J3X8R2A473K125AD | | |
| | | | ± 20% | CGA4J3X8R2A473M125AD | | |
| | 3216 | 0.85 ± 0.15 | ± 10% | CGA5F2X8R2A473K085AD | | |
| | | | ± 20% | CGA5F2X8R2A473M085AD | | |
| 1608 | 0.80 ± 0.15 | ± 10% | | CGA3E3X8R1H683K080AD | CGA3E2X8R1E683K080AD | |
| | | ± 20% | | CGA3E3X8R1H683M080AD | CGA3E2X8R1E683M080AD | |
| 3216 | 1.15 ± 0.15 | ± 10% | ± 10% | CGA4J3X8R2A683K125AD | CGA4J2X8R1H683K125AD | |
| | | | ± 20% | CGA4J3X8R2A683M125AD | CGA4J2X8R1H683M125AD | |
| | ± 10% | ± 10% | CGA5H2X8R2A683K115AD | | | |
| | | ± 20% | CGA5H2X8R2A683M115AD | | | |



Capacitance Range Table

Class 2 (Temperature Stable)

Temperature Characteristics: X8R (-55 to +150°C, ±15%)

| Capacitance | Size | Thickness (mm) | Capacitance Tolerance | Catalog Number | | |
|-------------|-------------------|-------------------|-----------------------|-------------------------|------------------------|------------------------|
| | | | | Rated Voltage Edc: 100V | Rated Voltage Edc: 50V | Rated Voltage Edc: 25V |
| 100 nF | 1608 | 0.80 ± 0.15 | ± 10% | CGA3E3X8R1H104K080AD | CGA3E2X8R1E104K080AD | |
| | | | ± 20% | CGA3E3X8R1H104M080AD | CGA3E2X8R1E104M080AD | |
| | 2012 | 1.25 ± 0.25 | ± 10% | CGA4J2X8R1H104K125AD | | |
| | | | ± 20% | CGA4J2X8R1H104M125AD | | |
| | 3216 | 1.15 ± 0.15 | ± 10% | CGA5H2X8R2A104K115AD | | |
| | | | ± 20% | CGA5H2X8R2A104M115AD | | |
| 150 nF | 1608 | 0.80 ± 0.15 | ± 10% | | CGA3E3X8R1E154K080AD | |
| | | | ± 20% | | CGA3E3X8R1E154M080AD | |
| | 2012 | 1.25 ± 0.25 | ± 10% | CGA4J3X8R1H154K125AD | | |
| | | | ± 20% | CGA4J3X8R1H154M125AD | | |
| | 3216 | 0.85 ± 0.15 | ± 10% | | CGA4F2X8R1E154K085AD | |
| | | | ± 20% | | CGA4F2X8R1E154M085AD | |
| 3216 | 0.85 ± 0.15 | ± 10% | CGA5F2X8R1H154K085AD | | | |
| | | ± 20% | CGA5F2X8R1H154M085AD | | | |
| 220 nF | 1608 | 0.80 ± 0.15 | ± 10% | | CGA3E3X8R1E224K080AD | |
| | | | ± 20% | | CGA3E3X8R1E224M080AD | |
| | 2012 | 1.25 ± 0.25 | ± 10% | CGA4J3X8R1H224K125AD | CGA4J2X8R1E224K125AD | |
| | | | ± 20% | CGA4J3X8R1H224M125AD | CGA4J2X8R1E224M125AD | |
| | 3216 | 1.15 ± 0.15 | ± 10% | CGA5H2X8R1H224K115AD | | |
| | | | ± 20% | CGA5H2X8R1H224M115AD | | |
| 3216 | 1.60 + 0.30/-0.10 | ± 10% | CGA5L2X8R2A154K160AD | | | |
| | | ± 20% | CGA5L2X8R2A154M160AD | | | |
| 330 nF | 1608 | 0.80 ± 0.15 | ± 10% | | CGA3E3X8R1C334K080AD | |
| | | | ± 20% | | CGA3E3X8R1C334M080AD | |
| | 2012 | 1.25 ± 0.25 | ± 10% | | CGA4J2X8R1E334K125AD | |
| | | | ± 20% | | CGA4J2X8R1E334M125AD | |
| | 3216 | 0.85 ± 0.15 | ± 10% | | CGA5F2X8R1E334K085AD | |
| | | | ± 20% | | CGA5F2X8R1E334M085AD | |
| 3216 | 1.60 + 0.30/-0.10 | ± 10% | CGA5L3X8R2A334K160AD | CGA5L2X8R1H334K160AD | | |
| | | ± 20% | CGA5L3X8R2A334M160AD | CGA5L2X8R1H334M160AD | | |
| 470 nF | 1608 | 0.80 ± 0.15 | ± 10% | | CGA3E3X8R1C474K080AD | |
| | | | ± 20% | | CGA3E3X8R1C474M080AD | |
| | 2012 | 1.25 ± 0.25 | ± 10% | | CGA4J3X8R1E474K125AD | |
| | | | ± 20% | | CGA4J3X8R1E474M125AD | |
| | 3216 | 0.85 ± 0.15 | ± 10% | | CGA5F2X8R1E474K085AD | |
| | | | ± 20% | | CGA5F2X8R1E474M085AD | |
| 3216 | 1.60 + 0.30/-0.10 | ± 10% | CGA5L2X8R1H474K160AD | | | |
| | | ± 20% | CGA5L2X8R1H474M160AD | | | |
| 680 nF | 3225 | 2.00 ± 0.20 | ± 10% | CGA6M3X8R2A474K200AD | | |
| | | | ± 20% | CGA6M3X8R2A474M200AD | | |
| | 2012 | 1.25 ± 0.25 | ± 10% | | CGA4J3X8R1C684K125AD | |
| | | | ± 20% | | CGA4J3X8R1C684M125AD | |
| | 3216 | 1.15 ± 0.15 | ± 10% | | CGA5H2X8R1E684K115AD | |
| | | | ± 20% | | CGA5H2X8R1E684M115AD | |
| 3216 | 1.60 + 0.30/-0.10 | ± 10% | CGA5L3X8R1H684K160AD | | | |
| | | ± 20% | CGA5L3X8R1H684M160AD | | | |
| 1 µF | 2012 | 1.25 ± 0.25 | ± 10% | | CGA4J3X8R1C105K125AD | |
| | | | ± 20% | | CGA4J3X8R1C105M125AD | |
| | 3216 | 1.60 + 0.30/-0.10 | ± 10% | CGA5L3X8R1H105K160AD | CGA5L2X8R1E105K160AD | |
| | | | ± 20% | CGA5L3X8R1H105M160AD | CGA5L2X8R1E105M160AD | |
| | 3216 | 1.60 + 0.30/-0.10 | ± 10% | | CGA5L3X8R1E155K160AD | |
| | | | ± 20% | | CGA5L3X8R1E155M160AD | |
| 3225 | 1.60 ± 0.20 | ± 10% | CGA6L2X8R1E155K160AD | | | |
| | | ± 20% | CGA6L2X8R1E155M160AD | | | |
| 2.2 µF | 3216 | 1.60 + 0.30/-0.10 | ± 10% | CGA5L3X8R1E225K160AD | | |
| | | | ± 20% | CGA5L3X8R1E225M160AD | | |



Capacitance Range Table

Class 2 (Temperature Stable)

Temperature Characteristics: X8R (-55 to +150°C, ±15%)

| Capacitance | Size | Thickness (mm) | Capacitance Tolerance | Catalog Number | | | |
|-------------|------|------------------|-----------------------|-------------------------|------------------------|------------------------|------------------------|
| | | | | Rated Voltage Edc: 100V | Rated Voltage Edc: 50V | Rated Voltage Edc: 25V | Rated Voltage Edc: 16V |
| 2.2 μ F | 3225 | 2.00 \pm 0.20 | \pm 10% | | | CGA6M2X8R1E225K200AD | |
| | | | \pm 20% | | | CGA6M2X8R1E225M200AD | |
| 3.3 μ F | 3216 | 1.60 +0.30/-0.10 | \pm 10% | | | | CGA5L3X8R1C335K160AD |
| | | | \pm 20% | | | | CGA5L3X8R1C335M160AD |
| | 3225 | 2.50 \pm 0.30 | \pm 10% | | | CGA6P2X8R1E335K250AD | |
| | | | \pm 20% | | | CGA6P2X8R1E335M250AD | |
| 4.7 μ F | 3216 | 1.60 +0.30/-0.10 | \pm 10% | | | | CGA5L3X8R1C475K160AD |
| | | | \pm 20% | | | | CGA5L3X8R1C475M160AD |
| | 3225 | 2.50 \pm 0.30 | \pm 10% | | | CGA6P3X8R1E475K250AD | |
| | | | \pm 20% | | | CGA6P3X8R1E475M250AD | |
| 6.8 μ F | 3225 | 2.00 \pm 0.20 | \pm 10% | | | | CGA6M3X8R1C685K200AD |
| | | | \pm 20% | | | | CGA6M3X8R1C685M200AD |
| 10 μ F | 3225 | 2.50 \pm 0.30 | \pm 10% | | | | CGA6P3X8R1C106K250AD |
| | | | \pm 20% | | | | CGA6P3X8R1C106M250AD |